

Notice of Allowability

Application No.

10/616,696

Applicant(s)

SUGITA ET AL.

Examiner

Art Unit

Dah-Wei D. Yuan

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 6/5/07.
2. ☒ The allowed claim(s) is/are 5,6 and 8.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 09/641,187.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

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SOLID POLYMER ELECTROLYTE FUEL CELL STACK

Examiner: Yuan

S.N. 10/616,696

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June 11, 2007

Detailed Action

1. The Applicant's amendment filed on June 5, 2007 was received. Claim 7 was canceled. Claims 5,8 were amended.

2. The text of those sections of Title 35, U.S.C. code not included in this action can be found in the prior Office Action issued on July 7, 2006.

Examiner's Amendment

3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

4. Authorization for this examiner's amendment was given in a telephone interview with Mr. Anthony A. Laurantano on June 11, 2007. The application has been amended as follows:

Cancel claims 1-4,9-32.

Claim Rejections

5. The claim rejections under 35 U.S.C. 103(a) as obvious over Walsh (US 6,096,450) on claims 5,6 are withdrawn because claim 5 has been amended.

Reasons for Allowance

6. Claims 5,6,8 are allowed. The invention of independent claim 5 recites a fuel cell stack comprising a plurality of fuel cell units, wherein each of the fuel cell units has a rectangular shape and fuel gas supply port and an oxygen-containing gas supply port are formed at an upper portion of end edges on short sides of said fuel cell units, respectively, and a fuel gas discharge port and an oxygen-containing gas discharge port are formed at a lower portion of end edges on short sides of said fuel cell units, respectively, such that said fuel gas supply port and said oxygen-containing gas supply port are provided at diagonal positions with respect to said fuel gas discharge port and said oxygen-containing gas discharge port, respectively, a plurality of fuel gas flow passages connecting said fuel gas supply port and said fuel gas discharge port for supplying a fuel gas to said anode electrode, said fuel gas flow passages being serpentine passages each having two turns; and a plurality of oxygen-containing gas flow passages connecting said oxygen-containing gas supply port and said oxygen-containing gas discharge port for supplying an oxygen-containing gas to said cathode electrode, said oxygen-containing gas flow passages being serpentine passages each having two turns, wherein said serpentine passages include a plurality of first grooves and a plurality of second grooves, wherein a selected number of said plurality of first grooves merge into a selected number of said plurality of second

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grooves. The closest prior art of record, Walsh, does not disclose or suggest the serpentine passages include a plurality of first grooves and a plurality of second grooves, wherein a selected number of said plurality of first grooves merge into a selected number of said plurality of second grooves as stated in the claim.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dah-Wei D. Yuan whose telephone number is (571) 272-1295. The examiner can normally be reached on Monday-Friday (8:00-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan, can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dah-Wei D. Yuan
June 11, 2007



DAH-WEI YUAN
PRIMARY EXAMINER